

**WHAT IS CLAIMED IS:**

1. A water purification system, comprising:

a water supply conduit;

a filter manifold defining at least one filter element mounting station for receiving and supporting at least one filter element, said filter manifold further including flow coupler means for connecting said at least one filter element with said water supply conduit to produce purified water;

a latch plate movable between a latched position for engaging and retaining said at least one filter element in said at least one mounting station, and an unlatched position permitting removal and replacement of said at least one filter element; and

lock means movable between a first position engaging and preventing movement of said latch plate from said latched position to said unlatched position, and a second position permitting movement of said latch plate between said latched and unlatched positions.

2. The water purification system of claim 1 wherein said lock means further includes a shut-off valve for shutting off water flow through said water supply conduit to said filter manifold when said lock means is in said second position.

3. The water purification system of claim 1 wherein said lock means comprises an actuator lever having one end connected to a shut-off valve for controlling water flow through said water supply conduit to said filter manifold, said actuator lever in said first position obstructing and preventing movement of said latch plate from said latched position to said unlatched position and further setting said shut-off valve in an open position, said actuator lever in said second position permitting movement of said latch plate between said latched and unlatched positions and further setting said shut-off valve in a closed position.

4. The water purification system of claim 1 wherein said filter manifold defines a plurality of filter element mounting stations, and further wherein said at least one filter element comprises a plurality of filter elements for mounting respectively at said mounting stations.

5. The water purification system of claim 4 wherein said plurality of filter elements includes a reverse osmosis cartridge.

6. The water purification system of claim 1 wherein said filter manifold comprises a frame, said latch plate being pivotally mounted to said frame for movement between said latched and unlatched positions.

7. The water purification system of claim 6 wherein said lock means is mounted on said frame for movement between said first and second positions.

8. The water purification system of claim 7 wherein said lock means said lock means further includes a shut-off valve for shutting off water flow through said water supply conduit to said filter manifold when said lock means is in said second position.

9. The water purification system of claim 8 wherein said lock means comprises an actuator lever having one end connected to said shut-off valve for controlling water flow through said water supply conduit to said filter manifold, said actuator lever in said first position obstructing and preventing movement of said latch plate from said latched position to said unlatched position and further setting said shut-off valve in an open position, said actuator lever in said second position permitting movement of said latch plate between said latched and unlatched positions and further setting said shut-off valve in a closed position.

10. In a water purification system having a filter manifold defining at least one filter element mounting station, at least one filter element removably mounted at said at least one mounting station, and flow coupler means for connecting said at least one filter element to a water supply to produce purified water, the improvement comprising:

a latch plate movable between a latched position for engaging and retaining said at least one filter element in said at least one mounting station, and an unlatched position permitting removal and replacement of said at least one filter element relative to said at least one mounting station; and

shut-off valve means including a valve movable between open and closed positions respectively permitting and preventing water flow to said at least one filter element, and actuator means movable between first and second positions for respectively moving said valve between said open and closed positions, said actuator means in said first position engaging said latch plate to obstruct and prevent movement thereof from said latched position to said unlatched position, said actuator means in said second position permitting movement of said latch plate between said latched and unlatched positions.

11. The water purification system of claim 10 wherein said filter manifold defines a plurality of filter element mounting stations, and further wherein said at least one filter element comprises a plurality of filter elements for mounting respectively at said mounting stations.

12. The water purification system of claim 10 wherein said filter manifold comprises a frame, said latch plate being pivotally mounted to said frame for movement between said latched and unlatched positions.

13. A water purification system, comprising:

a water supply conduit;

a filter manifold defining a plurality of filter element mounting stations arranged generally in-line for receiving and supporting a

corresponding plurality of filter elements, said filter manifold further including flow coupler means for connecting said filter elements with said water supply conduit to produce purified water;

a latch member movable between a latched position for engaging and retaining said filter elements at said mounting stations, and an unlatched position permitting removal and replacement of said filter elements; and

shut-off valve means including a valve mounted along said water supply line and movable between open and closed positions respectively permitting and preventing water flow to said filter manifold, and actuator means movable between first and second positions for respectively moving said valve between said open and closed positions, said actuator means in said first position engaging said latch member to obstruct and prevent movement thereof from said latched position to said unlatched position, said actuator means in said second position permitting movement of said latch member between said latched and unlatched positions.

14. The water purification system of claim 13 wherein said filter manifold comprises a frame, said latch member comprising a latch plate pivotally mounted to said frame for movement between said latched and unlatched positions.

15. The water purification system of claim 14 wherein said actuator comprises an elongated lever having one end connected to said valve, said actuator lever in said first position obstructing and preventing movement of said latch plate from said latched position to said unlatched position and further setting said shut-off valve in an open position, said actuator lever in said second position permitting movement of said latch plate between said latched and unlatched positions and further setting said shut-off valve in a closed position.